

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

December 13, 1994

Mr. William A. Murdoch
Murdoch Consultation Service
3652 13th Avenue West
Seattle, Washington, 98119-1318

Dear Mr. Murdoch:

I am writing in response to your letter to Michael Shapiro of February 18, 1994 regarding 6 volt mercury-cadmium batteries. In your letter you ask three questions: 1) what regulatory requirements under the Resource Conservation and Recovery Act (RCRA) apply to the treatment and disposal of mercury-cadmium batteries, 2) what volume of mercury-cadmium batteries was disposed of in 1993, and 3) where might one of your clients direct their findings on innovative technologies affecting mercury-cadmium batteries within EPA for review.

In response to your first question, I am enclosing a copy of a recently completed Report To Congress, Metal Recovery, Environmental Regulation and Hazardous Waste. Chapter 4 of that Report describes in general terms how RCRA applies to metal recovery of hazardous waste such as mercury-cadmium batteries. The only other comment I would make is that your understanding that mercury-cadmium batteries are required under RCRA to be drummed and disposed of in a hazardous waste dump is incorrect. Actually, since these batteries are cadmium-containing batteries, they are required under the Land Disposal Restriction program (40 CFR Part 268) to be treated by thermal recovery (40 CFR Section 268.42).

EPA understands that as a technical matter it may be difficult to comply with this requirement because it is difficult to treat mercury-cadmium batteries due to the fact that currently most battery recycling technologies in the United States are not designed to treat these wastes. The treatment standard for cadmium-containing batteries has been applied mostly to other cadmium-containing batteries such as nickel-cadmium batteries. It is our understanding that in recognition of this difficulty that one battery manufacturer is evaluating the feasibility of recycling this stream in North America and Europe.

In response to your second question about volumes of mercury-cadmium batteries, EPA does not collect statistical data on volumes of characteristically hazardous wastes by each types (e.g., mercury-cadmium battery). Generally, this type of information is only available, if at all, from the entities which generate the waste.

However, EPA has consulted the major battery manufacturer of mercury-cadmium batteries, Rayovac regarding this question. Rayovac does not have precise data on volumes of mercury-cadmium cells discarded in any particular year. However, the company indicates that it produced a total of approximately 50 tons of mercury-cadmium cells since the early 1970's. Since the cells have a variable life, it is impossible to know what percentage will be discarded in any given year. Further, if the cells are unused and sent for reclamation, they may not be solid wastes under RCRA, but rather commercial chemical products being reclaimed. 40 CFR Section 261.2(c)(3).

In response to your final question, you may wish to have your client contact our Technology and Innovation Office (TIO) which is located within the Office of Solid Waste and Emergency Response. You may contact the TIO at (703) 308-8800. If you have any further questions, please contact Paul Borst of my staff at (202) 260-6713.

Sincerely,

Michael J. Petruska, Chief
Regulatory Development Branch

Enclosure

FaxBack # 11891

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EPA

**Report to Congress
on Metal Recovery,
Environmental
Regulation &
Hazardous Waste**